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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,707	10/24/2003	Kenny K. Chinn	AB-123U1	9782

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EXAMINER

CAZAN, LIVIUS RADU

ART UNIT PAPER NUMBER

3729

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/692,707	Applicant(s) CHINN ET AL.	
	Examiner Livius R. Cazan	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/07/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the pin-shaped mold (claim 1, line 2), the contacts arranged in two rows in the mold (claim 1, line 4), the plurality of wires having an end connected to said electrical contacts (claim 1, lines 5-7), the printed circuit board placed in the mold (claims 2 and 3), and the strain relief (claim 11) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

- On page 1, in the title, "Meth d" should read --Method--
- On page 16, paragraph [0091], line 3, "comprises" should read --comprise--
- On page 17, paragraph [0097], line 1, "FIG 10" should read --FIG. 10--

3. The use of the trademarks LEXAN, ULTEM, HYSOL has been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required. Applicant is urged to carefully review the application and correct remaining informalities, if any are still present.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, claim 14 recites "means for activating an electrical connection with the electrical contacts of the pin." As claimed, it is implied that an electrical connection is activated using *all* the electrical contacts of the pin. The specification, however, discusses the fact that a switch is used to close an electrical connection, thereby activating a connection between contacts of the pin connector and matching contacts of a receptacle into which the pin connector is inserted (paragraphs [0100] and [0104]). There is no suggestion that *all* the electrical contacts of the in connector are somehow used to activate *an* (i.e. the same) electrical connection, as claimed in claim 14.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, it is unclear whether the printed circuit board and the mold recited in line 5 of the claim are the same circuit board recited in lines 2 and 3 and mold recited in line 2 of claim 1 and in line 5 of claim 3.

Regarding claim 9, it is unclear whether or not the connector pin is indeed connected to two of the elements recited in the claim. As claimed, the connector only needs to be "configured to provide electrical connection," e.g. capable of being connected to other devices. Further, "and external" in line 3 should read --an external--.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 5, 6, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by van den Honert et al. [hereinafter Honert] (US5000194).

Regarding claim 1, Honert discloses:

- providing a pin-shaped mold; the mold must be pin-shaped, since the resulting product is pin-shaped; see Fig. 1.
- positioning a plurality of electrical contacts (electrodes 40, Figs. 4 and 5) in the pin-shaped mold (see col. 3, Ins. 55-60);
- arranging the plurality of electrical contacts in at least two rows (see Fig. 1);
- providing a plurality of conducting wires (26 in Figs. 2-5), each having an end (see end of wires 26 in the figures);
- electrically connecting the end of at least one conducting wire to each of the electrical contacts (see Fig. 5; see step 82 in Fig. 6; see col. 3, Ins. 25-50);
- introducing insulating material into the mold to form a pin with electrical contacts positioned in at least two rows along the pin (see step 92 in Fig. 6; see col. 3, Ins. 55-65).

See col. 3, Ins. 15-65 and Fig. 6 for an overview of the process.

Regarding claim 5, Honert discloses forming the contacts (electrodes 40) of platinum or platinum/iridium (col. 4., ln. 44)

Regarding claim 6, Honert discloses rows that converge toward each other (see Fig. 1), and therefore are not straight.

Regarding claim 9, as best understood, the pin disclosed by Honert comprises lead wires 26 (see col. 3, ln. 14; see Fig. 5), such that the pin is configured to provide and capable of providing electrical connection between an external *lead* cable and some other element, such as one selected from the list recited in claim 9.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 5, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. (US6162101) in view of Honert.

Regarding claims 1 and 6, Fischer et al. disclose:

- providing a plurality of electrical contacts (5A-5H in Fig. 1)
- arranging the plurality of electrical contacts in at least two rows (each of the ring-shaped electrodes forms a circular (i.e. not straight) row around the pin; see Fig. 1);

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- providing a plurality of conducting wires, each having an end (see col. 2, ln. 65 - col. 3, ln. 5; see lead cable in Fig. 1);
- electrically connecting the end of at least one conducting wire to each of the electrical contacts (clearly, each electrode 5A-5H has a wire attached to it; see previous step);

Fischer et al. do not disclose how the electrical contacts are attached to the body, i.e. do not specify that a pin-shaped mold is used to form the pin having contacts and wires, by injecting an insulating material into the mold.

Honert teaches this method of forming a pin (as discussed in the rejection of claim 1 under 35 U.S.C. 102(b) above).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the pin of Fischer et al. by the method taught by Honert. in order to utilize a cheap and simple method of forming the pin.

Further, to the extent the applicant disagrees that Fischer et al. disclose at least two rows of contacts. Fischer et al. disclose that the connector does not have to be a linear array, but instead could have other shapes (col. 3, lns. 1-15).

Honert teaches arranging a plurality of contacts in two rows (as previously discussed).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to form the pin connector of Fischer et al. with two rows of contacts, in view of the teachings of Honert, in order to provide a connector with double the number of contacts.

Regarding claim 5, Fischer et al disclose the same invention as the applicant, except for the particular metal used for the contacts being one of those listed in claim 5 of the present application.

As previously discussed, Honert disclose forming the electrodes/contacts on the pin from platinum or platinum iridium.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to form the contacts of Fischer et al from such a metal, in order to form contacts that are biocompatible.

Regarding claim 9, Fischer et al. disclose a connector pin configured to provide electrical connection between an external lead cable (7 in Fig. 1) and a lead containing an electrode array (2 in Fig. 1).

12. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honert, as applied to claim 1 in paragraph 9 above.

Honert discloses the same invention as the applicant, except for providing a PCB within the mold, so as to electrically connect the wires to the electrical contacts.

At the time the invention was made, it would have been obvious matter of engineering design choice to a person of ordinary skill in the art to provide a PCB board within the mold, because Applicant has not disclosed that the PCB board provides an advantage, is used for a particular purpose, or solves a stated problem that would not be provided or solved by connecting the electrical wires directly to the contacts (as also disclosed by the Applicant (see page 15, para. [0087]; see page 15, para. [0089])). One

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of ordinary skill in the art, furthermore, would have expected the pin of Honert and applicant's invention to work equally well with either the PCB or the wires connected directly to the contacts, because both would perform the same function of electrically connecting the wires and the contacts equally well.

Therefore it would have been *prima facie* obvious to modify the invention of Honert to obtain the invention as specified in claims 2 and 3 because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art of Honert.

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honert, as applied to claim 1 in paragraph 9 above, in view of Lemke (US5768777).

Honert discloses the same invention as the applicant, except for temporarily holding together the electrical contacts in an array with bridging sections between the contacts, and cutting the bridging sections so as to separate the contacts.

Lemke teach forming a connector by injection molding, wherein contacts are connected to a carrier strip (thereby providing bridging sections between the contacts), and wherein after the plastic injected into the mold sets, the strip is removed, thereby separating the contacts (see carrier strip 70 in Fig. 9; see col. 11, lns. 35-67).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to hold the contacts together using bridging sections, in view of the teachings of Lemke, and to cut the bridging sections to thereby separate the contacts, in order to be able to insert all the contacts into the mold at once.

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14. Claims 7, 8, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. and Honert as applied to claim 1 above, in view of Comben et al. (US5354326).

Regarding claims 12 and 13, it is deemed that the means for maintaining alignment of the pin during use, and the means for assuring proper orientation of the pin during use comprise a hooked groove, as described in paragraph [0094] on page 17 or a notch, as described in paragraph [0097], or their equivalents. Furthermore it is deemed that such equivalents constitute various alignment/keying means known in the art, since keyed connectors only fit in one possible orientation, and therefore alignment and orientation of the connectors is maintained during use.

Regarding claims 8, 12, and 13, Fischer et al. and Honert disclose the same invention as the applicant, except for a keying feature, so as to maintain alignment and orientation of the connector during use.

Comben et al. disclose a pin connector having such a feature (see col. 5, lns. 55-68; see keyed corner/notch 50 in Figs. 8a-8d).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a keying feature in the pin of Fischer et al. and Honert, in view of the teachings of Comben et al. in order to permit the pin to be inserted in only one way into a corresponding receptacle.

Regarding claim 7, Fischer et al., Honert, and Comben et al. disclose the same invention as the applicant, except for providing at least one groove in the pin. However, as discussed above, Fischer et al., Honert, and Comben et al. provide a keying feature.

At the time the invention was made, it would have been obvious matter of engineering design choice to a person of ordinary skill in the art to provide the pin of Fischer et al, Honert, and Comben et al. with a groove, instead of a notch/keyed corner, because Applicant has not disclosed that the groove provides an advantage, is used for a particular purpose, or solves a stated problem that would not be provided or solved by some other equivalent keying feature, such as a notch. One of ordinary skill in the art, furthermore, would have expected the notch/keyed corner of Fischer et al., Honert, and Comben et al. and Applicant's invention to work equally well with either the notch or the groove.

Therefore it would have been prima facie obvious to modify the pin connector of Fischer et al., Honert, and Comben et al. to obtain the invention as specified in claim 7 because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art of Fischer et al., Honert, and Comben et al.

15. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. and Honert, as applied to claim 1 above, in view of Barnick (US5232383).

Regarding claim 10, it is deemed that the means for securely holding the pin comprise a grooved portion, as described in paragraph [0099] on page 18 or an

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equivalent structure which facilitates holding the pin securely and also provides a strain relief.

Regarding claims 10 and 11, Fischer et al. and Honert disclose the same invention as the applicant, including a pin having a proximal portion and a distal portion (proximal end is attached to the electrode lead in Fig. 1 of Fischer et al.; distal end is the end indicated at 54 in Fig. 1 of Fischer et al.).

Fischer et al. and Honert do not disclose means for securely holding the pin and forming a strain relief at the proximal portion of the pin.

Barnick teaches forming a portion on the end of a connector which facilitates holding the pin securely and acts as a strain relief for the lead attached to the connector (see strain relief portion on end 13, Fig. 1A).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a strain relief portion at the proximal end of the pin of Fischer et al. and Honert, in view of the teachings of Barnick, in order to relieve strain on the lead attached to the pin, and to facilitate holding the pin securely (due to the notches on the strain relief; see Fig. 1A).

16. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honert, as applied in the rejection of claim 1 under 35 U.S.C. 102(b), or over Fischer et al. and Honert, as applied in the rejection of claim 1 under 35 U.S.C. 103(a) above, both in view of applicant's admitted prior art (APA). It is deemed that the means for activating an electrical connection comprise an electrically or mechanically activated switch, as described on page 18, paragraph [0100], or an equivalent structure.

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Honert/Fischer et al. and Honert does/do not disclose providing means for activating an electrical connection.

APA teaches that means for activating an electrical connection, such as an electrically or mechanically activated switch, are known in the art (see page 18, paragraph [0100], Ins. 2-5);

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide such means as described above, in view of the teachings of APA, in order to allow for the activation of an electrical connection.

Conclusion

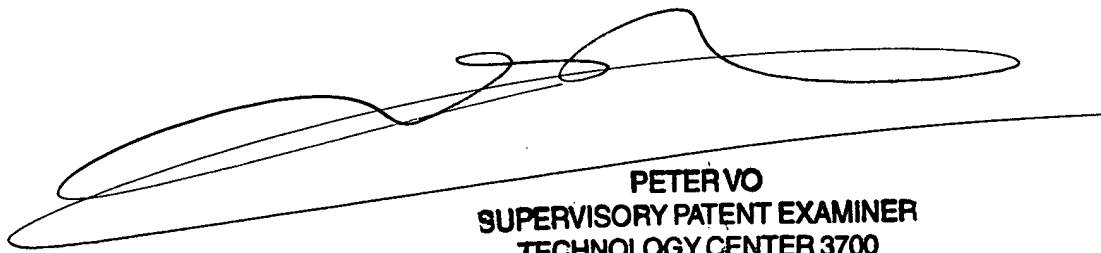
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Livius R. Cazan whose telephone number is (571) 272-8032. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571)272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LRC 05/08/2006



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